

PATENT ABSTRACTS OF JAPAN

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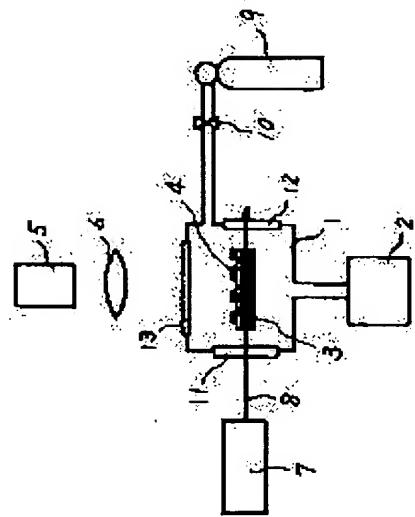
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(54) DRY ETCHING APPARATUS

(57)Abstract:

PURPOSE: To perform a resist etching by passing a light beam radiated from the second light source in parallel with the surface of a substrate in the vicinity of the pole of the substrate, thereby reducing the radiating damage of the substrate.

CONSTITUTION: When pattern information is emitted to the surface of a substrate, a mask 4 drawn in an equal magnification of a desired pattern is mounted at the position opposed to the substrate 3, the light of the first light source 5 is emitted from a direction perpendicular to the mask, and a light 8 finely converged is passed through a narrow gap between the substrate 3 and the mask 4. When P-type or no-added silicon substrate is etched with chlorine gas as reactive gas, the substrate 3 and the mask 4 are mounted in parallel so that the gap therebetween becomes 100W150μm, and Excimer laser (XeCl) light is finely condensed and guided to the gap. A light of the wavelength which does not contribute to the actuation of the chlorine gas is emitted from the first light source 5, and projected on the substrate 3 with the pattern information corresponding to the mask 4. Thus, the light-emitted substrate is selectively etched.



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